Cross-Cultural Adaptation and Validation of the Voice-Related Quality of Life Into Persian

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Summary: The purpose of this study was to adapt and determine reliability, validity, and responsiveness of voice-related quality of life (V-RQOL) for Persian. A total of 300 patients with voice disorders participated in the study. Also, 116 people without any voice disorders volunteered to participate in the study as a control group. All participants filled in the Persian version of V-RQOL. The reliability, validity, and responsiveness were studied. Results demonstrated that the discrimination coefficient is significant for all items. The V-RQOL measure showed a strong internal consistency (Cronbach alpha coefficient = 0.88−0.91) and a good test-retest reliability (r = 0.93−0.95). Pre- and post-treatment results showed a significant responsiveness (functioning, 0.000; social-emotional, 0.001; and total, 0.000). Effect size range of 1.26–1.59 and the standardized response mean range of 1.07–1.41 were obtained for V-RQOL. It seems that the Persian version of V-RQOL is valid, reliable, and responsive to change, and this questionnaire can be used for completing voice evaluation for patients with dysphonia.

Key Words: Quality of life–Persian–Voice disorder–Dysphonia.

INTRODUCTION

The evaluation of treatment outcome of a patient with voice disorder has been moved from traditional assessments, including videolaryngostroboscopy and acoustic, aerodynamic, and perceptual measurements, to a more holistic approach related to quality of life measures which can assess the effects of voice disorder on a patient's daily life.[1] Patients with voice disorders have reported some problems interfering with social, emotional, communication, and physical functions in their daily and personal lives.[1,2] Therefore, voice researchers have attempted to survey the effectiveness of treatments on different dimensions of quality of life in patients with voice disorders.[3] Various self-report questionnaires were developed to measure quality of life. Although most of these questionnaires were constructed in English, they have been gradually the locus of attention among voice therapists of different countries and have been translated and adapted to their languages. The first developed questionnaire[4] for tracking the effects of voice disorders on patients' life is the Voice Handicap Index (VHI) questionnaire[5] which was translated widely into several languages including Persian.[6] The other well-known self-report questionnaire, which was applied in various clinical studies,[7–11] is voice-related quality of life (V-RQOL) constructed by Hogikyan and Sethuraman.[12] The comparison of psychometric properties of voice disorder quality of life questionnaires demonstrated that the most complete data were related to VHI and V-RQOL,[13] which was "psychometrically strongest of the existing measures."[4] Both questionnaires met seven of 11 measurement standards including item information, versatility, practicality, breadth and depth of health measure, reliability, validity, and responsiveness.[13] Some differences were observed between these standards: VHI met excellent performance standard of item information and practicality (ease of scoring) and demonstrated higher reliability than V-RQOL. The V-RQOL showed more satisfying responsiveness properties over VHI. Both are recommended to be used in clinical practice, specially the use of total V-RQOL score for group-level decision making and the use of total VHI score for individual-level decision making.[4,13] The V-RQOL is a 10-item scale, which measures the effects of voice disorders on patients' quality of life in a physical functioning and social-emotional domain. Many researchers have attempted to adapt V-RQOL to their own native languages and cultures and have presented the results to the scientific societies. A review of these attempts shows that the questionnaire has been translated into different languages[14–17] but not into Persian. Hence, the aim of the present study was to translate and adapt the original V-RQOL version into Persian and to survey the psychometric properties of Persian version of V-RQOL such as validity, reproducibility, and responsiveness and to adapt it in a way that it can be used as a tool to evaluate the quality of life of Persian speakers with voice disorders.

Translation procedure

According to the basic rules and instructions devised by International Quality of Life Assessment Project for a cross-culturally meaningful translation of any test-related wordings,[18,19] the authors contributed to provide a V-RQOL questionnaire with a plain and understandable wording for all Persian participants. Before taking any further steps, the researchers asked Prof. N.D. Hogikyan, the test developer, for permission to use the questionnaire. In the beginning, two English translators and a speech and language pathologist, whose native language was Persian, were asked to translate the questionnaire from English to Persian with a simple, short, and clear wording. At this point, three independent translations were presented. Afterward, a panel of experts discussed them as three primary translation forms.[18,20–22] The panel included a translator, three speech and language pathologists, and a clinical psychologist,

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who was experienced in the field of psychometrics and psychological test translation interpretation. The panel surveyed each item of the three primary translation forms and tried to find the best one.[22] The panel discussed some topics such as the clarity of translation (ie, using simple and understandable words), the use of general and common words in Persian language (ie, avoiding the use of jargon or metaphorical words), and the conceptual equivalence (ie, the conceptual representation, which was used in the main test). In fact, a panel of experts was requested to measure the content validity of all the items and determine whether each is translated correctly and implies the same meaning as its equivalence in the original questionnaire. At this stage, the panel would change a word or a phrase if all members agreed on the irrelevancy or the nonsensicalness of that word. Eventually, a refined form of translation was finalized.

To control the quality of the translation and confirm the equivalency of the Persian-translated questionnaire to the original version both conceptually and linguistically, a translator who was both a clinical psychologist and a bilingual in English and Persian was asked to perform the back translation from Persian to English.

As a usual procedure, back translation aims to find meaning errors and concept nonequivalence.[18,20] In comparison with the original version of V-RQOL, the retranslated questionnaire was confirmed by another independent translator as being a genuine and understandable translation.

Subsequently, as a pilot study, the Persian form was distributed among 20 people with voice disorders with an average age of 43 years (12 women and eight men) as a target population, ranging in age from 25 to 60 years, and they were asked to participate in a face-to-face interview after finishing filling the forms. During the individual interview session,[18,23,24] the first author of this article asked interviewees to specify the words or the items in the Persian version of V-RQOL that they did not understand while responding to them. The interviewer tried to make sure that the participants interpreted the words or the items in the same way they meant in the original V-RQOL. This step aimed at removing potential ambiguities and misunderstandings.[25] The participants' permission was obtained before the interviews were recorded for the future reference. By reviewing the subjects' opinions, the authors decided to change the content of three items to make them more understandable. For example, the word "clarity" in item 17 of the original version of V-RQOL[12] where it says "the clarity of my voice is unpredictable" was not used by Persian speakers; hence, it was omitted, whereas "voice" remained intact because this word alone would maintain the same meaning in the Persian form. After the cognitive debriefing method[20] via interviews and by borrowing the suggestions made by the participants, the panel of experts reached an agreement on a finalized Persian form of V-RQOL. Overall, the integration of experts' and participants' opinions increased the validity, accuracy, and the amendment of the questionnaire (Appendix).

Participants

An otorhinolaryngologist and a speech and language pathologist were asked to evaluate the subjects' voice using a comprehensive voice assessment form. This form comprised the components of a medical history, an oral examination, and also the perceptual, acoustic, and respiratory assessments. They also performed videostroboscopy. None of the experts were aware of the particulars and the chief complaints in the referrals before the medical examinations. The participants were included in the study only if there was an agreement between the results of the videostroboscopy and the voice assessment instruments, whether normal or not normal. Thus, the participants were diagnosed as normal or patient when both experts concurred with this.

The clinical data were gathered from a group of patients with voice disorder. This group included 300 patients with dysphonia (120 women and 180 women) whose ages ranged from 18 to 80 years, with the average age of 45.2 ± 14.2 years. They were all diagnosed by an otorhinolaryngologist and a speech and language pathologist as having the voice disorders and subsequently were assigned into four groups based on the laryngeal videostereoscopic findings and the causes of the disorder as shown in the following: 1, neurogenic; 2, benign midmembranous vocal fold lesions (BVFLs)[26]; 3, inflammatory; and 4, functional.

Group 1 (neurogenic) included 43 patients with unilateral or bilateral paralysis of vocal folds and 25 patients with spasmodic dysphonia (ie, abductor or adductor or mixed). Group 2 (BVFLs) included 32 patients with unilateral or bilateral nodules, 21 patients with polyps, and 16 patients with cysts. Group 3 (inflammatory) included 16 patients with chronic laryngitis, 12 patients with Reinke edema, and 43 patients with laryngopharyngeal reflux. Chronic laryngitis was considered as a chronic nonspecific inflammation of the mucous membrane of the larynx for more than 3 months' duration of chronic laryngitis.[27,28] The predisposing causes included smoking, vocal abuse, history of inhalation of irritants, chronic upper respiratory tract infection, and environmental factors.[27,28] Group 4 (functional) consisted of 93 patients with muscle tension dysphonia including 22 patients with vocal fold hypoadduction during phonation and 71 patients with hyperfunction muscle tension dysphonia whose larynx structure was normal.[2]

In the control group, there were 116 volunteers (52 men and 64 women) who did not show a history of voice disorder or speech therapy. The mean age of the participants in the control group was 46.2 ± 13.7 years, with the age range of 18–81 years. According to the reports provided by the otorhinolaryngologist and speech and language pathologist, they did not have voice disorders, and based on the videostroboscopic findings, no problem was observed in their laryngeal structures and functions. Table 1 illustrates the demographic features of the groups.

Data collection procedure was followed in two stages. At the first stage, all participants were asked to answer the Persian version of the VHI questionnaire based on its instruction.[6] At the second stage, all individuals filled in the V-RQOL questionnaire without any later help of or additional explanation by the examiner. These stages took place in a quiet room outside the otorhinolaryngology clinic. Normal cognitive function was regarded as an inclusion criterion for the participants in this study. To assess cognitive function, Persian version of mini-mental state examination or Folstein test was used.[29] All the subjects